

In this city, and connected with the lumber trade from boyhood, is a son of Mr. S. A. Winchester, one of our oldest and most respected citizens, and himself a young man of fine business ability, industry and capacity. Paul A. J. Winchester, well and favorably known as superintendent of the Grand Rapids public schools for eighteen years, has since retiring from that position, ten years ago, developed into an enterprising, alert and thoroughly competent business man.

Sproul & McGurran.

Planting, steam and hot water heating, hot air furnaces, mangle, crating, filling, etc., No. 134 East Fulton street.

Robert Sproul and William T. McGurran, seventeen years ago joined their fortunes, which consisted solely of an outfit of plumbers and gas fitters, tools, a thorough practical knowledge of the trade, good health and determination, and, renting the front portion of a Canal street basement, rolled up their sleeves and began the battle for success, in which they have proven winners. Later on they removed to Nos. 131 and 133 Monroe street, where they remained until six years ago, when they secured and occupied the desirable premises, No. 134 East Fulton street, 24 feet front by 160 feet deep, also one-half of the adjoining store, 24x30 feet in the rear. Their elegant office and show-room are on the ground floor and the shops in the basement under Fulton street, where and on outside work are employed forty men and boys. The firm have \$50,000 invested in machinery, appliances and stock, and during the past twelve months have transacted a business of over \$100,000 with patrons, though they have done much work for parties all over Michigan and adjoining states and as far south as North Carolina. They carry full lines of steam and hot water heating apparatus, hot air furnaces, mangle, crating, filling, etc., together with a general assortment of plumbers' supplies, which they furnish to the trade on advantageous terms. They are also sole agents here for the celebrated "Eaton" boiler and the Douglas instantaneous hot water heater.

Macaulay Bros.

Contractors for steam and hot water heating apparatus—steam fitters and dealers in steam fitters' supplies—No. 10 Lyon street.

Messrs. Charles B. and John J. Macaulay were formerly residents of Chicago, in which city they wrought at their trade for ten or fifteen years, familiarizing themselves with every practical detail of the business. Locating in Grand Rapids five years ago, they established themselves at No. 20 Lyon street in December, 1888, they were not long in outgrowing their quarters, and took possession of the first floor and basement of the old building, No. 10 Lyon street, which they have completely renovated and refitted, the main floor for office and salesroom purposes and the basement as workshops, the latter equipped in the best manner with the latest improved special tools and appliances. They employ about fifteen highly-trained, superior workmen, and are kept busy executing contracts for the putting in of steam and hot water heating apparatus of the highest order, here and in other western and northern Michigan cities and towns. Among the more notable jobs done by them may be mentioned the complete steam-heating system of the superb new Michigan Trust company's building, that of the Wonders building, those of the Botsford and Shepard blocks, and numerous other public and private buildings, prominent examples of which are the residence of Mr. S. H. Wilbey, Boyd, Pantlind, H. M. Brown and W. B. Willard. Messrs. Macaulay Bros. carry a very large and varied stock of steam fitters' supplies for use in their own business and for the convenience of the trade, embracing the most approved styles of feed water heaters and purifiers; safety, radiator, pop and air valves; grease extractors, lubricators, oilers, pump regulators, pipe and fittings, etc. They also keep in stock several popular styles of boilers, hot water and steam heaters, but make a specialty of the Gurney apparatus, for which they are general agents, having secured it because of its many and obvious good qualities.

Wm. Miller.

Hot water, steam and hot air heating engineer. Economy combination heaters. No. 26 South Iowa street.

Mr. Miller in 1872 started alone in the specialty of heating engineer, and, being an expert and ingenious mechanic, has achieved great success. It is, therefore, almost superfluous to state that he enjoys a first-class reputation, and controls a steadily increasing share of public patronage. Mr. Miller's office and shops are at No. 26 South Iowa street, a three-story and basement brick building, 20x30 feet, fitted up with the latest improved special tools and machinery adapted to his work. He employs from seven to ten skilled assistants, and is kept busy in the construction of new and the repair of old heating apparatus, giving prompt attention to all calls for the introduction of steam, hot water or hot air, and making a specialty of the famous "Economy" combination heater. He is also connected with the Grand Rapids Furmen company, a portion of whose work is done in his shop.

Grand Rapids Furnace Co.

Manufacturers of hot air, hot water and steam heating furnaces—the "Perfect Economizer." Office, No. 26 South Iowa street.

The Grand Rapids Furnace company, organized last February, is composed of Messrs. William and D. A. Miller, and the foundry firm of Rempe & Gailmeier. All practical men associated together for the purpose of manufacturing and introducing the "Perfect Economizer" furnace, which, first brought out last winter, has since become popular, a demand having sprung up greater than can be supplied with present facilities and a new foundry and shop will be erected next spring. So far the castings have been made by Rempe & Gailmeier, the Millwright and Iron-works being done at William Miller's factory, No. 28 South Iowa street, where is also the company's office. As yet the company has been unable to keep up with city orders.

Henry IV. of France always insisted upon his children calling him papa, as he did not wish them to address him by the titles of king and emperor, according to the ceremonial adopted at foreign courts. He was in the habit of taking part in the childish amusements of his little ones. One day as he was going round a room on all fours with the Dauphin, his first-born, on his back, an ambassador unexpectedly entered his apartment. The king, without changing his posture, said to him: "Now, have you children of your own?"

"Yes, sire," was the reply.

"Ah, well, in that case I will finish my ride around the room."

THESE BE IRON MEN

How the Valley City Is Represented

IN THIS IMPORTANT TRADE

Our Representative Firms and Their Products Specifically and Generally.

Owing to the unfavorably high rate of freightage required by the railway transportation companies, the iron manufacturers of this city have been retarded in their growth. An open river will reduce freight tolls and the following named industries will profit thereby. With all the disadvantages to overcome, few cities can boast of finer establishments than the ones mentioned below.

Butterworth & Lowe.

James Lowe, president; Rowland Lowe, vice president; Edward Lowe, secretary and treasurer—founders, machinists and manufacturers of all kinds of mill and improved shingle machinery—foot of Huron street.

This important industrial concern had its inception as long ago as 1813, when James McCray succeeded Ketchum & McCray of Greenville and removed to Grand Rapids, erecting upon the site of the present works an unpresentable frame foundry and machine shop. Here he invested his entire capital of \$50,000, and met with reasonable success, but died in 1851, when the management passed temporarily into the hands of Gilbert M. Stewart and B. McCray, who sold out to Daniel Ball and Charles P. Babcock. Ball & Babcock retired in 1855, and were succeeded by Byron D. Ball under the style of Daniel Ball & Son, employing twenty-five workmen and turning out the first saw mill engine ever built in Grand Rapids. Richard E. Butterworth and William S. Gunn became associated with Mr. Ball in 1856, as Ball & Butterworth, Mr. Butterworth becoming sole proprietor in 1858, and so continuing until 1869, when James Lowe bought an interest, and the style was changed to Butterworth & Lowe, which is still retained, though Mr. Butterworth died in 1888. The present company, officered as above, was incorporated in 1890, capital stock \$100,000.

In September last Butterworth & Lowe bought and consolidated with their own the business and good will of J. C. Simonds & Son, the world-famous manufacturers of shingle machinery. Mr. Frank H. Simonds, a junior member, accepting the superintendency of the concern. Under the new auspices the policy of improving and extending the sale of these unequalled machines will be continued with the same vigor that characterized the old firm. These specialties include the Simonds iron-frame machine, strong, well proportioned, a model of simplicity and effectiveness, made in one size only, for 38-inch saws; the Simonds wood-frame machine, similar to the above, in size for 36, 38, 40 and 42-inch saws; the Simonds improved yoke for arbor; the Simonds improved tilt table; the Simonds improved stealer carriage, which enables the operator to cut three true shingles from one and the same log without liability of splitting the saw; the Simonds patent roller-way for tilt tables; the Simonds jack works; the Simonds power drag-saw machine; the Simonds drag-saw elevator and freckle lift; the Simonds shingle boiler and sapper; the Simonds six-knife wheel jointer; the Simonds improved sheet steel joint saw table machine; the Simonds shingle butcher or packer; the Simonds split of the machinery; the Simonds split of the machinery; the Simonds 100 shingle machine; specially designed for the use of mill men who wish to utilize otherwise waste stuff, and the Simonds emery saw grinders, an indispensable adjunct to the mill, the best and cheapest in the market.

The works and appurtenances, situated at the foot of Huron street, cover about three acres of land and comprise a number of brick and frame buildings one to three stories in height and of varying dimensions suited to the requirements of the business, and fitted up in first-class style as foundry, machine, blacksmith, finishing and pattern shops, storage warehouses, salesrooms, offices, etc. Ample power is provided in all departments, by means of turbine wheels taking water from the canal, supplemented by a steam engine constructed on the premises, as well as by the use of water power. The working force number about seventy, and the annual output averages \$100,000, comprising every description of engines and machinery for mill purposes, both saw and grist. The products of the firm are in high repute, and the demand from all parts of the continent is large and steadily increasing.

Adolph Leitelt Iron Works.

Manufacturers of steam engines and boilers, Leslie's improved veneer cutters, "Noble" lumber dryer, live or exhaust steam hot blast apparatus for heating factories and dry kilns, iron pipe, fittings, valves, etc., corner Erie and Mill streets.

The above named widely known and important industrial concern was founded in 1862 by Adolph Leitelt, Sr., under whose individual name and personal supervision it was conducted until 1891, when the present stock company was organized and incorporated with a \$100,000 capital.

The works, situated on both sides of the canal, consist of two large three-story brick buildings, covering together an area of 50,000 square feet, fitted up with modern improved machinery and appliances driven by water power in the dry season, when steam power is substituted. Ninety hands are employed, \$1,000 a week is paid out in wages and the output for every year past has varied from \$150,000 to \$200,000 in value. The leading specialties comprise improved steam engines and boilers for mill and similar uses. They are also manufacturing the new improved "Noble" lumber dryer, which reduces any kind of air-dried lumber, except oak or hickory, in twenty-four hours or less, without injury and at less expense than by any other method. The lumber remains perfectly flat and straight, thus effecting a saving of ten to twenty per cent in material. These dryers are constructed in any desired size, and are being shipped to points all over the United States, between the North Atlantic and North Pacific, the St. Lawrence and the Gulf.

Leslie's improved veneer cutter, Noble's lumber dryer, live or exhaust steam, hot blast apparatus for heating factories, dry kilns, iron pipe, fittings, valves, etc., together with a general line of light and heavy iron and brass castings for all purposes, besides giving attention to repairs of machinery of

all kinds. Prompt and courteous replies are given to correspondents and satisfaction guaranteed.

Michigan Iron and Metal Co.

M. Brandy, proprietor—Wholesale and retail dealer in iron and metal—Nos. 6 to 20 Alabama street, corner West Bridge street.

The collection and handling of old iron, metals and rags of various kinds, suited to the manufacture of paper and shoddy, is a much more important industry than is generally supposed, involving the employment of large capital and the carrying out of business transactions on an enormous scale. The most extensive of Western Michigan operators in this class of commodity is the Michigan Iron and Metal company, founded in 1885 by Mr. M. Brandy, who had for nine years previously been engaged in the same business at Detroit. Coming here in the year named, with \$50,000 capital, he established himself first at the corner of West Fulton and Front streets, where he built up a flourishing trade that eventually outgrew his premises, and he removed in 1890 to the present location, Nos. 6 to 20 Alabama street. Here he has ample storage room—two yards respectively 200x200 and 200x200 feet in area and a quarter of an acre at the railroad siding. He employs eight men and five teams, receives consignments from all points north and west, and ships to the trade generally throughout the United States. While handling every description of scrap iron and railroad supplies he makes a leading specialty of discarded railroad iron, car-wheels and railroad supplies, including abandoned engines and boilers, broken machinery of every description, etc., paying the highest prices for the same. He usually carries 500,000 tons and ships ten cars per week on an average. Consignments solicited.

Antrim Iron Company.

T. J. O'Brien, president; James M. Barnett, vice president; J. C. Holt, secretary and treasurer; M. M. Duncan, manager. Manufacturers of Lake Superior charcoal pig iron. Furnace at Antrim, Mich.; office, No. 6 New Aldrich block.

The Michigan iron mines, situated in the upper peninsula, are among the most productive in the world, and the ore is of the very best grade. When reduced to pig by the charcoal process it is said by experts to have no rival in point of toughness and other good qualities. The ore itself is shipped in vast quantities by lake and rail to Pennsylvania and Ohio, where it is mixed with native ore for the manufacture of Bessemer and foundry pig iron. There are, however, a number of furnaces nearer the mines which reduce the ore with charcoal instead of coke. Among the most extensive and impor-

Grand Rapids Boiler Works.

McDonald & Carroll, proprietors—Manufacturers of steam boilers and sheet iron work, dealers in second-hand boilers and engines. Nos. 35 and 37 South Front street.

The Grand Rapids Boiler works was established more than twenty years ago by the late Daniel Sullivan. After Mr. Sullivan's death in 1890, Messrs. P. M. McDonald and H. P. Carroll purchased the plant, which they have continued to augment in effectiveness. The works occupy a one-story frame building, 50x80 feet in dimensions at Nos. 35 and 37 South Front street, between Bridge and Pearl, west side, connected with which are spacious yards for the storage of materials and second-hand boilers and engines, of which they usually have a large and varied stock, obtained in exchange, not unfrequently, for new ones, that being a branch of their business which receives much attention, as does repairs to boilers and sheet iron work generally, in and out of the city. They also deal largely in old and new steam engines,



KENT COUNTY COURT HOUSE.

and parties who wish to buy, sell or exchange anything of that kind can do no better than consult this firm. Messrs. McDonald & Carroll have in their employ a number of competent workmen, and, being themselves expert practical mechanics, they are prepared to construct to order, at short notice and at reasonable prices, every description of steam boilers, tanks, chimney stacks and plate and sheet iron work generally.

West Side Iron Works.

Joseph Jacobobice, manufacturer of hand-saws, saw-arbors, shafting and pulleys, general mill work, etc., the Jacobobice free escape, Nos. 31 and 33 South Front street.

Mr. Jacobobice is an expert and experienced mechanic, who started a small shop at or near the corner of Canal and Bridge streets in 1861. Here he remained for some years, working out of his home, and employing, as required, but finally erected shops at Nos. 31 and 33 South Front street, west side, which he still occupies, though they have been considerably enlarged and the equipment perfected to the point now comprising a wooden one-story building 30x20 feet, fitted up with steam power and a complete outfit of the latest and most approved machinery adapted to his use, and giving employment to five or six first-class workmen, who turn out from \$25,000 to \$30,000 worth of work annually. Mr. Jacobobice's leading specialties embrace a full line of improved hand saws for all purposes, saw-arbors, shafting and pulleys, mill work of all kinds, etc. He is also manufacturer of the celebrated Jacobobice free escape, which ranks with the best and most reliable devices for that purpose ever put on the market. Orders for the above and for wood-working machinery of all kinds promptly executed in the best manner.

Brobst & Himes.

Proprietors of Central Boiler works, manufacturers of all kinds of boilers and sheet iron works, No. 1 Huron street.

The Central Boiler works were established in 1885 by Messrs. H. Brobst, J. Himes and P. Peterson, under the style of J. Himes & Co. A little later Mr. Brobst purchased Mr. Peterson's interest, and the remaining members organized a new firm, Brobst & Himes. Mr. Henry Brobst and Mr. John Himes are expert practical mechanics and respected citizens whose industry and enterprise have contributed much to the development and growth of the city. The Central Boiler works representing an investment of \$25,000,

are situated at No. 1 Huron street and consist of a one-story frame building, 80x100 feet in area, fitted up with all the latest improved machinery, special tools and appliances, and employ at the time fourteen or fifteen skilled workmen, the annual output ranging in value from \$20,000 to \$40,000. While steam boilers of all kinds and sizes are the leading specialties, the firm gives prompt and careful attention to plate and sheet iron work of every description, and has acquired a reputation among mill men, machinists and others all over western and northern Michigan. Brobst & Himes have recently purchased the right for and control the use in Kent county of the wonderful Michigan low water alarm, an absolute safeguard against boiler explosions caused by evaporation and superheated steam. It is manufactured by the Low Water Alarm Manufacturing company of Cornhusk, Mich., and endorsed by the Association of Stationary Engineers.

Frank Edge & Co.

Manufacturers of Improved band and scroll saw blades, Nos. 66 and 68 South Front street.

The center of the greatest furniture manufacturing district on earth, Grand Rapids, naturally attracts kindred industries. One of the most useful and important of these is the making of saws of all kinds indispensable to the woodworkers. A leading representative of this interest is the house of Frank Edge & Co., established by the senior member three years ago last April. Mr. Edge is a young man, but a thorough practical mechanic in his second line of fine saw work, and has already made for himself a first class reputation among consumers of his goods here and throughout this and adjoining states. Only the choicest steel is used by him; all work is well and skillfully done, and a guarantee accompanies every blade sold by him. His equipment of modern improved machinery and appliances is unsurpassed, and the saws made under his supervision are equal to the best produced anywhere. Careful attention is given to setting, filing, brazing or joining band saws of every description, and to repairs generally. Mr. Edge invites special attention to his own make of bevelback band saws, and scroll saw blades, indispensable for furniture, chair, organ and other factories doing fine scroll sawing. His shop is situated on the ground floor of the large three-story frame building Nos. 66 and 68 South Front street, where orders should be sent.

T. J. Everhart, Manufacturer and repairer of all kinds of saws—No. 30 Waterloo street.

Among the industries established here when Grand Rapids was queen of the Western Michigan lumber region, and which still flourish in pristine vigor, the manufacture of circular, drag and band saws is one of the most notable. A prominent representative of this branch of business is T. J. Everhart, an experienced, skilful, practical saw-maker, who came from Chicago in 1875 and engaged in business on his own account. His factory occupies

the ground floor and basement, each 20x40 feet, at No. 30 Waterloo street, is appropriately fitted up with special tools, etc., and gives employment to several persons, who, under Mr. Everhart's personal direction, turn out about \$4,000 worth of work per annum, embracing the best grade of band, circular and drag saws and saw repairs of every description. Mr. Everhart is widely known to the mill and lumbermen of this region and his work ranks with the best. Orders for anything in his line are filled in superior style at short notice and guaranteed. He makes a leading specialty of band saws of all widths and lengths at low prices.

J. H. Dean, Manufacturer of models, patterns and special machinery, electrical and mechanical expert, No. 87 and 89 Kent street.

Grand Rapids is full of mechanical geniuses, and a good many valuable patents are issued annually to her citizens. Doubtless as many other cases are in progress, since the commissioner and his assistants cannot reasonably be expected to take final action upon a device which they have neither seen nor had adequately described to them. Words fail in ninety-nine cases out of a hundred, and so does the claim. Those who think they have devised a valuable machine, appliance or improvement of any kind will find it profitable to consult a competent model-maker, and one of the best and most reliable in the country is Mr. J. H. Dean, whose neat and well-equipped office and shop are Nos. 87 and 89 Kent street. He is at hand every facility, and if any one is capable of comprehending instructions and drawings and embodying them in the form of a model he is the man. Mr. Dean also makes to order every description of large and small patterns for the use of molders and machinists, repairs electrical apparatus and constructs experimental machinery of all kinds.

Mr. Dean is a native of Ohio, learned his trade with the celebrated G. F. Green of Kalamazoo, and is a recognized expert, doing a great deal of fine work for patrons in the city and all over this part of the state. He has been here six years.

Grand Rapids Hand Screw Co.

A. C. Denison, president; C. M. Road, secretary; O. B. Wilmett, treasurer and manager. Manufacturers of patent saw-cut thread hand screws, case and glue clamps, cabinetmakers' carvers, chair and patternmakers' benches, factory trucks, saw and milling tables, etc., Nos. 33 and 35 South Front street.

Ordinary wood screws are cut by means of a V-shaped tool, the result being that the wood is strained, weakened, and not unfrequently split, causing the hole upon the work to be loose. All this is obviated in the screw made by the Grand Rapids Hand Screw company, the thread being cut by a saw under a patent process, leaving the contiguous wood as solid and strong as ever, capable of resisting successfully a much greater strain than is likely to ever be put upon them. The jaws, made of well-seasoned, hard maple with a deep, perfectly true and close-fitting thread, complete the appliance and furnish the workman with a tool up to which he may implicitly rely.

Edward Tannewitz.

Manufacturer of all kinds of wood-working machinery—Nos. 38 and 41 South Front street.

Mr. Tannewitz, who learned his trade with Lambell & Co., and is a noted expert, has been in Grand Rapids for some years, and is now engaged in the manufacture of all kinds of wood-working machinery, including saws, benches, screws, wood clamp heads, cabinetmakers' clamps, clamp boxes, cabinetmakers' carvers, chair and patternmakers' benches, swing and sliding cut-off saw tables, railway saw tables, sanding tables, soap boxes and wooden screw glue clamps for molders' use, warehouse platforms, trucks and factory trucks in various styles, to which they ask the attention of those interested.

This flourishing industrial concern was founded by Wheeler & Delisle, who were succeeded by the existing company, incorporated January, 1888. The building now occupied, Nos. 38 and 41 South Front street, is of wood, 40x70 feet, three stories and basement, with office in front and well-appointed machine shop in rear. Employing every description of competent mechanics, Mr. Tannewitz builds to order and repairs almost every description of machinery, making leading specialties of improved modern appliances for the use of planing and moulding mills, furniture factories, manufacturers of chairs, wooden ware, wheeled vehicles, sleighs, press work in sheet metal, etc.,—in short, for woodworkers in all branches. The output of this establishment is regarded with favor wherever it is known, and is steadily and gratifyingly increasing, orders from all parts of Michigan and adjoining states.

Valley City Wire Works.

Rockwell, proprietor, manufacturer of plain and ornamental wire work of every description, No. 8 Pearl street, basement.

Western Michigan merchants, bankers, manufacturers and others in want of wire work of any kind for office use, railings, etc., no longer are compelled to send to distant points for them, since Grand Rapids has now a well equipped establishment of her own devoted to that class of work. Mr. P. Rockwell, a native of the city, a practical expert mechanic and good business man, is the proprietor of the business, his investment, 25x100 feet, of the large brick building No. 8 Pearl street, near the bridge, where, with all requisite facilities and plenty of skilled help, he will be pleased to see all interested and receive orders for plain, office and similar wire, elevator guards, window screens and everything made of woven and bent wire. His work is equal to the best made anywhere; his designs are new and original, and his prices are low. Though only established two years, the indications are that he is on the high road to future prosperity, and it certainly seems reasonable that this region should yield him ample support.

part in machinery, was for six years until July last the junior member of the firm of Hartmann & Co. September 10 he bought out the establishment of L. Dietz, Jr. & Co., Nos. 38 and 41 South Front street, and again embarked in the business, this time alone. The plant comprises a substantial one-story frame building 30x30 feet in dimensions, with office in front and well-appointed machine shop in rear. Employing every description of competent mechanics, Mr. Tannewitz builds to order and repairs almost every description of machinery, making leading specialties of improved modern appliances for the use of planing and moulding mills, furniture factories, manufacturers of chairs, wooden ware, wheeled vehicles, sleighs, press work in sheet metal, etc.,—in short, for woodworkers in all branches. The output of this establishment is regarded with favor wherever it is known, and is steadily and gratifyingly increasing, orders from all parts of Michigan and adjoining states.

Frank Edge & Co. Manufacturers of Improved band and scroll saw blades, Nos. 66 and 68 South Front street.

The center of the greatest furniture manufacturing district on earth, Grand Rapids, naturally attracts kindred industries. One of the most useful and important of these is the making of saws of all kinds indispensable to the woodworkers. A leading representative of this interest is the house of Frank Edge & Co., established by the senior member three years ago last April. Mr. Edge is a young man, but a thorough practical mechanic in his second line of fine saw work, and has already made for himself a first class reputation among consumers of his goods here and throughout this and adjoining states. Only the choicest steel is used by him; all work is well and skillfully done, and a guarantee accompanies every blade sold by him. His equipment of modern improved machinery and appliances is unsurpassed, and the saws made under his supervision are equal to the best produced anywhere. Careful attention is given to setting, filing, brazing or joining band saws of every description, and to repairs generally. Mr. Edge invites special attention to his own make of bevelback band saws, and scroll saw blades, indispensable for furniture, chair, organ and other factories doing fine scroll sawing. His shop is situated on the ground floor of the large three-story frame building Nos. 66 and 68 South Front street, where orders should be sent.

T. J. Everhart.

Manufacturer and repairer of all kinds of saws—No. 30 Waterloo street.

Among the industries established here when Grand Rapids was queen of the Western Michigan lumber region, and which still flourish in pristine vigor, the manufacture of circular, drag and band saws is one of the most notable. A prominent representative of this branch of business is T. J. Everhart, an experienced, skilful, practical saw-maker, who came from Chicago in 1875 and engaged in business on his own account. His factory occupies

the ground floor and basement, each 20x40 feet, at No. 30 Waterloo street, is appropriately fitted up with special tools, etc., and gives employment to several persons, who, under Mr. Everhart's personal direction, turn out about \$4,000 worth of work per annum, embracing the best grade of band, circular and drag saws and saw repairs of every description. Mr. Everhart is widely known to the mill and lumbermen of this region and his work ranks with the best. Orders for anything in his line are filled in superior style at short notice and guaranteed. He makes a leading specialty of band saws of all widths and lengths at low prices.

J. H. Dean, Manufacturer of models, patterns and special machinery, electrical and mechanical expert, No. 87 and 89 Kent street.

Grand Rapids is full of mechanical geniuses, and a good many valuable patents are issued annually to her citizens. Doubtless as many other cases are in progress, since the commissioner and his assistants cannot reasonably be expected to take final action upon a device which they have neither seen nor had adequately described to them. Words fail in ninety-nine cases out of a hundred, and so does the claim. Those who think they have devised a valuable machine, appliance or improvement of any kind will find it profitable to consult a competent model-maker, and one of the best and most reliable in the country is Mr. J. H. Dean, whose neat and well-equipped office and shop are Nos. 87 and 89 Kent street. He is at hand every facility, and if any one is capable of comprehending instructions and drawings and embodying them in the form of a model he is the man. Mr. Dean also makes to order every description of large and small patterns for the use of molders and machinists, repairs electrical apparatus and constructs experimental machinery of all kinds.

Mr. Dean is a native of Ohio, learned his trade with the celebrated G. F. Green of Kalamazoo, and is a recognized expert, doing a great deal of fine work for patrons in the city and all over this part of the state. He has been here six years.

Grand Rapids Hand Screw Co.

A. C. Denison, president; C. M. Road, secretary; O. B. Wilmett, treasurer and manager. Manufacturers of patent saw-cut thread hand screws, case and glue clamps, cabinetmakers' carvers, chair and patternmakers' benches, factory trucks, saw and milling tables, etc., Nos. 33 and 35 South Front street.

Ordinary wood screws are cut by means of a V-shaped tool, the result being that the wood is strained, weakened, and not unfrequently split, causing the hole upon the work to be loose. All this is obviated in the screw made by the Grand Rapids Hand Screw company, the thread being cut by a saw under a patent process, leaving the contiguous wood as solid and strong as ever, capable of resisting successfully a much greater strain than is likely to ever be put upon them. The jaws, made of well-seasoned, hard maple with a deep, perfectly true and close-fitting thread, complete the appliance and furnish the workman with a tool up to which he may implicitly rely.

Edward Tannewitz. Manufacturer of all kinds of wood-working machinery—Nos. 38 and 41 South Front street.

Mr. Tannewitz, who learned his trade with Lambell & Co., and is a noted expert, has been in Grand Rapids for some years, and is now engaged in the manufacture of all kinds of wood-working machinery, including saws, benches, screws, wood clamp heads, cabinetmakers' clamps, clamp boxes, cabinetmakers' carvers, chair and patternmakers' benches, swing and sliding cut-off saw tables, railway saw tables, sanding tables, soap boxes and wooden screw glue clamps for molders' use, warehouse platforms, trucks and factory trucks in various styles, to which they ask the attention of those interested.

part in machinery, was for six years until July last the junior member of the firm of Hartmann & Co. September 10 he bought out the establishment of L. Dietz, Jr. & Co., Nos. 38 and 41 South Front street, and again embarked in the business, this time alone. The plant comprises a substantial one-story frame building 30x30 feet in dimensions, with office in front and well-appointed machine shop in rear. Employing every description of competent mechanics, Mr. Tannewitz builds to order and repairs almost every description of machinery, making leading specialties of improved modern appliances for the use of planing and moulding mills, furniture factories, manufacturers of chairs, wooden ware, wheeled vehicles, sleighs, press work in sheet metal, etc.,—in short, for woodworkers in all branches. The output of this establishment is regarded with favor wherever it is known, and is steadily and gratifyingly increasing, orders from all parts of Michigan and adjoining states.

Valley City Wire Works.

Rockwell, proprietor, manufacturer of plain and ornamental wire work of every description, No. 8 Pearl street, basement.

Western Michigan merchants, bankers, manufacturers and others in want of wire work of any kind for office use, railings, etc., no longer are compelled to send to distant points for them, since Grand Rapids has now a well equipped establishment of her own devoted to that class of work. Mr. P. Rockwell, a native of the city, a practical expert mechanic and good business man, is the proprietor of the business, his investment, 25x100 feet, of the large brick building No. 8 Pearl street, near the bridge, where, with all requisite facilities and plenty of skilled help, he will be pleased to see all interested and receive orders for plain, office and similar wire, elevator guards, window screens and everything made of woven and bent wire. His work is equal to the best made anywhere; his designs are new and original, and his prices are low. Though only established two years, the indications are that he is on the high road to future prosperity, and it certainly seems reasonable that this region should yield him ample support.

Aldine Manufacturing Company.

A. D. Rathbone, president; L. H. Wilbey, vice president; T. J. Bennett, secretary and treasurer—manufacturers of the celebrated Aldine fire-place and artistic mantels—corner Shawmut avenue and Court street.

The Aldine fire-place is the ripened fruit of a lifetime of study, investigation and experiment by A. T. Bennett of New York, who devoted his best years to perfecting a system which should at once assure the greatest possible heat from the smallest consumption of fuel, and at the same time provide for wholesome ventilation by carrying the vitiated air of artificially warmed apartments up the chimney. The Aldine Manufacturing company was organized and incorporated in April, 1886; capital stock, \$60,000. The works, situated at the southeast corner of Shawmut avenue and Court street, on the west side, comprise three adjoining buildings, each 40x30 feet, that on the corner two stories, the others one story, fitted up with appropriate machinery and appliances and giving employment thirty-five or forty men, mostly skilled mechanics. The output varies in volume, but is rapidly increasing, and for 1891 reaching 7,500 fire-places complete, besides great numbers of art mantels in wood, slate and marble. Transactions for the present year promise to be much larger.

The "Aldine" grate burns hard or soft coal, gas coke, wood or gas with equal facility and economy. It embodies in an open fire-place the return draft principle of the hard coal stove, and provides for perfect ventilation. It furnishes heat equivalent to that given by the stove, and conditions not to be had through the use of stoves or other grates, making warm floors, an equal temperature in all parts of the room, and unsurpassed sanitation. The slow and continuous combustion gives far better results than can be obtained from any hard coal stove, and it is in all respects incomparably superior to any other known means of conducting heat and ventilation. Some of the advantages of the Aldine are thus briefly stated:

1. It is a perfect distributor of heat, and it procures the most perfect combustion of the fuel.
2. It is the most economical.
3. It keeps the air of the room at an even and proper temperature from floor to ceiling.
4. It is a perfect hard coal burner.
5. It burns soft coal, gas, coke, wood and gas with equal facility and economy.
6. The designs are new, attractive, unique and artistic.
7. It insures health, comfort, and for economy it challenges the world.
8. It will keep fire through the night equally as well as a hard coal stove.
9. It is only necessary to be replenished with hard coal twice a day to insure its constant and steady work during a day of twenty-four hours, and compares with other grates as the modern return draft coal stove of today compares with the direct draft coal stove of twenty-five years ago.

The Aldine is so arranged that when required the entire warm air circulation can be turned on and off, and, moreover, or into the room back of that in which the grate is placed. By reversing special damper, the entire warm air circulation is returned to the room in which the grate and mantle are placed in position. In this case, when mounted, it can be easily slipped into the opening under any square faced mantle. When the front is hung on the hearth in place it is ready for use. The only local connection required for perfect operation is a good chimney, which may be in the next room, or even several rooms removed from the grate itself, the connection being made as with a stove with ordinary stove-pipe.

Finally, the Aldine saves and utilizes ninety per cent of the heat, and consequently of the fuel wasted by any other grate or stove to produce the same amount of comfort. It is unquestionably endorsed by physicians, the press and all who have seen it in operation.

The Aldine fire-place is finished in ten different styles, Japanese bronze, old silver, old brass, nickel, bright copper, antique bronze, etc., and mantels to match are furnished to order in any required material. Citizens of Grand Rapids can obtain these mantels and grates at manufacturers' prices.

L. H. Soloth. Proprietor of Terand Rapids Metal Spinning works, Nos. 423 to 429 Shawmut street.

Mr. L. H. Soloth was for some years foreman of the firm, P. A. metal spinning works of W. W. Pierce & Co., from whom he holds letters in which he is given skill and efficiency are unquestionably attested. Four years ago he located in Grand Rapids, and in that short space of time

has made for himself a high reputation and built up a trade to which his facilities, constantly augmented, are scarcely equal, and are long he will be compelled to seek more commodious quarters and again enlarge his productive capacity. His present works are located on the fifth floor and in the basement, each 20x40 feet, of the building, 423 to 429 Shawmut street, and are completely fitted up with office and salesroom, show and shops below, the latter equipped with a complete force of expert workmen. A ten-horse power steam engine drives the machinery, and nothing